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Design of a New Decision Support System for Missing Aircraft, Case Study: The Search for MH370

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Abstract: Malaysian Airlines flight MH370 disappeared on March 8th, 2014 with 239 passengers and crew members on board. The previous search methodology and operation for the aircraft has exhausted the available resources and resulted in the suspension of the investigation until new information is discovered. Therefore, the development of a new prediction software is fundamental to continue the search for a missing aircraft such as flight MH370. The tool discussed in this presentation is a stochastic decision based software that incorporates airplane dynamics, ocean flow, recorded searched areas, and expert opinions to yield a probability density map of an expected resting location. This system is designed to run on a personal computer and is adjustable to examine alternative hypothesis (not accepted by the Australian Transport Safety Bureau) as well as to provide estimates for future aircraft that go missing.

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